Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

Bunker Hill Security®

8-Channel
Surveillance DVR

Visit our website at: http://www.harborfreight.com
Email our technical support at: tech@harborfreight.com

ITEM 61229

When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-800-444-3353 as soon as possible.

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No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools.
Diagrams within this manual may not be drawn proportionally. Due to continuing improvements, actual product may differ slightly from the product described herein. Tools required for assembly and service may not be included.

⚠WARNING

Read this material before using this product. Failure to do so can result in serious injury. SAVE THIS MANUAL.

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WARNING SYMBOLS AND DEFINITIONS	
⚠	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
⚠ DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
⚠ WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE CAUTION	Addresses practices not related to personal injury.

IMPORTANT SAFETY INFORMATION

⚠ WARNING

Read all safety warnings and instructions.
Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.
Save all warnings and instructions for future reference.

Installation Precautions

1. **Check federal, state and local surveillance laws before installing video and/or audio surveillance equipment.**
2. Install only according to these instructions. Improper installation can create hazards.
3. **Do not overreach when installing this product. Keep proper footing and balance at all times.** *This enables better control in unexpected situations.*
4. Wear ANSI-approved safety goggles during installation.
5. Keep installation area clean and well lit.
6. Keep children and bystanders out of the area during installation.
7. Do not install when tired or when under the influence of alcohol, drugs or medication.

Use Precautions

1. This product is not a toy. Do not allow children to play with or near this item.
2. Use as intended only.
3. Do not modify.
4. Maintain product labels and nameplates. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.

Electrical Safety

1. **Power Adapter plugs must match the outlet. Never modify the plug in any way.** *Unmodified plugs and matching outlets will reduce risk of electric shock.*
2. **Do not expose DVR unit to rain or wet conditions.** *Water entering the DVR will increase the risk of electric shock.*
3. **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** *Damaged or entangled cords increase the risk of electric shock.*

Service

Have your DVR equipment serviced by a qualified repair person using only identical replacement parts. *This will ensure that the safety of the equipment is maintained.*

Camera Safety Warnings

1. To prevent electric shock, do not attempt to disassemble Camera. There are no serviceable parts inside.
2. Use supplied Power Adapter only.
3. **Do not expose the Power Adapter to rain or wet conditions.** *Water entering the Power Adapter will increase the risk of electric shock.*
4. **Do not abuse the Power Adapter cord. Never use the cord for unplugging the plug from the outlet. Keep cord away from heat, oil, sharp edges or moving parts.** *Damaged or entangled cords increase the risk of electric shock.*
5. Handle Camera with care. Camera could be damaged by improper handling or storage.

DVR Safety Warnings

1. Maintain adequate airflow around DVR.
2. Use supplied Power Adapter only.
3. **Do not expose the Power Adapter or DVR console to rain or wet conditions.** *Water entering the Power Adapter or DVR console will increase the risk of electric shock.*
4. **Do not abuse the Power Adapter cord. Never use the cord for unplugging the plug from the outlet. Keep cord away from heat, oil, sharp edges or moving parts.** *Damaged or entangled cords increase the risk of electric shock.*
5. Maintain labels and nameplates on the unit. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
6. WARNING: Handling the cord on this product will expose you to lead, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling. (California Health & Safety Code § 25249.5, *et seq.*)
7. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

SAVE THESE INSTRUCTIONS.

Grounding

⚠WARNING

TO PREVENT ELECTRIC SHOCK AND DEATH FROM INCORRECT GROUNDING WIRE CONNECTION:
Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the power cord plug provided with the tool. Never remove the grounding prong from the plug. Do not use the tool if the power cord or plug is damaged. If damaged, have it repaired by a service facility before use. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

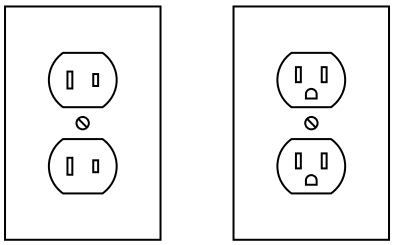


Figure A: Outlets for 2-Prong Plug

1. The included Power Adapters do not require grounding.
2. The Power Adapters may be used in either of the 120 volt outlets shown in the preceding illustration. **(See Figure A.)**

Extension Cords

Note: Do not use an extension cord with the Power Adapters.

Symbology

	Double Insulated
	Canadian Standards Association
	Underwriters Laboratories, Inc.

V	Volts
~	Alternating Current
A	Amperes

Specifications

DVR		
Hard Drive	500 GB	
Video Standard	NTSC / PAL	
Video Codec	H.264	
Video I/O	Input: 8 BNC	
	Output: 2 BNC / 1 VGA	
Audio Codec	G.711	
Audio I/O	Input: 1 RCA	
	Output: 1 RCA	
Recording	Resolution	CIF: 352 x 240; HD1: 704 x 240; D1: 704 x 480
	Frame Rate	Up to 30 fps each channel
Recording Mode	Manual / Schedule / Motion Detection / Remote	
Motion Detection	Selectable Area and Sensitivity Detection	
PTZ Interface	RS485 - Supports Pelco-D/P camera (sold separately)	
Network Interface	RJ-45 10m/100m Ethernet Interface	
USB Interface	USB 2.0	
DVR Input Rating	12VDC / 2A	
Operating Temperature	32º - 131ºF	

Cameras	
Lens Types	2 Cameras with fixed 6 mm lenses 2 Cameras with fixed 3.6 mm lenses
Horizontal Resolution	400 TVL
Effective Pixels	648H x 488V
Night Vision Type	Infrared LEDs with Low Light Sensor
Image Type	Daylight: Color Infrared: Black & White
Infrared Wavelength	850nm
Infrared Distance	30 ft. (indoors)
Ingress Protection Rating	IP65 - Protected from low pressure water jets
Video Connector	BNC
Camera Input Rating	12VDC / 500 mA
Cable Length	60 ft.
Operating Temperature	14° - 122°F

Set up - Before Use:

Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Components and Controls

DVR Front Panel

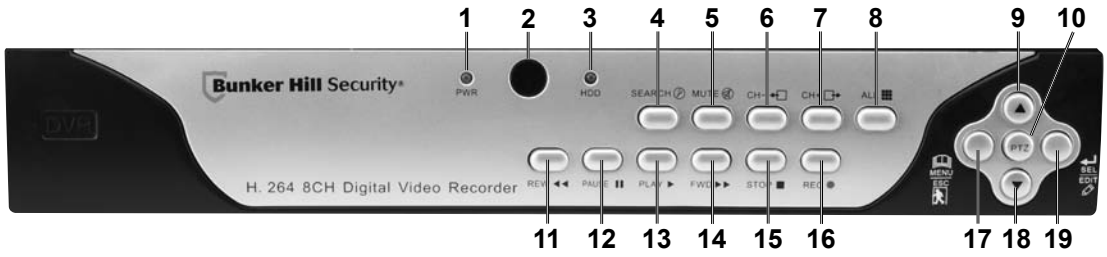


Figure B

1	Green Power Indicator
2	Remote Control IR Receiver
3	Red Hard Disk Drive Activity Indicator
4	Search Recordings
5	Mute
6	Previous Channel
7	Next Channel
8	Toggle 4 and 9 Screen Displays
9	Menu Up / *PTZ Up*
10	PTZ Control Mode

11	Rewind / Activate Controls
12	Pause
13	Play
14	Fast Forward
15	Stop
16	Start Manual Recording
17	Open Menu / Escape / *PTZ Left*
18	Menu Down / *PTZ Down*
19	Confirm Selection / Edit Selected Setting / *PTZ Right*

Note: Controls for PTZ mode are italicized.

DVR Back Panel

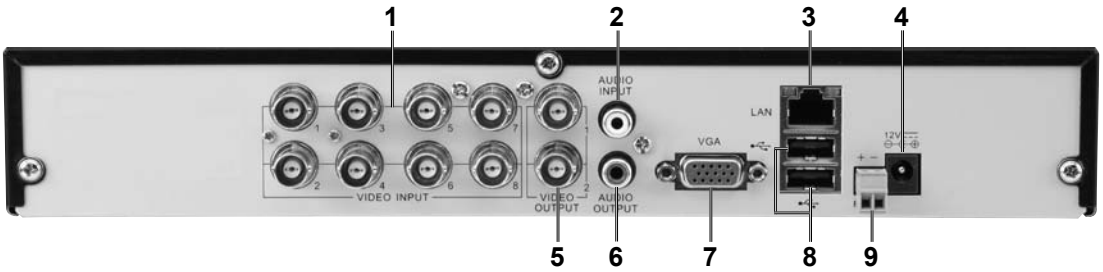


Figure C

1	BNC Video Input	8
2	RCA Audio Input	1
3	RJ45 LAN Ethernet Port	1
4	12VDC Power Input	1
5	BNC Video Output	2

6	RCA Audio Output	1
7	VGA Port	1
8	USB 2.0 Port	2
9	RS485 PTZ Connector	1

DVR Accessories

Power Adapter

BNC to RCA Cable

Remote Control Functions	
1 - 8	Select Channel
ALL	Toggle 4 and 9 Screen Displays
MENU	Open Menu
MUTE	Mute
SUBMENU	Open Pop-Up Menu
▲	Menu Up
▼	Menu Down
◄	Menu Left
►	Menu Right
SEL	Confirm Selected Operation
◄◄	Rewind
►	Play / Search Records
►►	Fast Forward
●	Record
II	Pause
■	Stop

Note:
2 AAA batteries included.

Remote

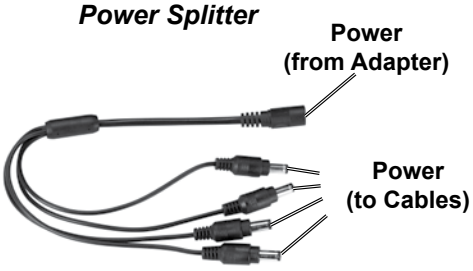
Mouse

Figure D

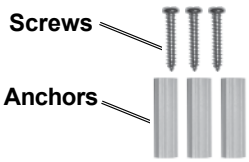
Camera and Accessories

Power Adapter

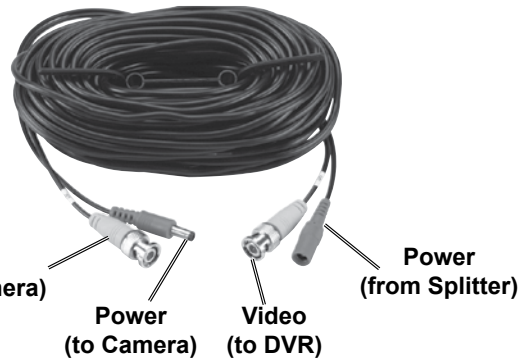
Power Splitter



Mounting Hardware



Cable - 60 ft.



Camera

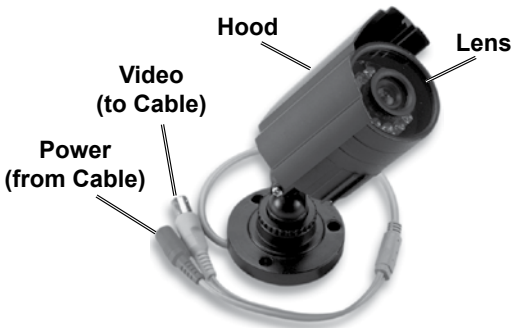


Figure E

Quick Start Guide Flow Charts

Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

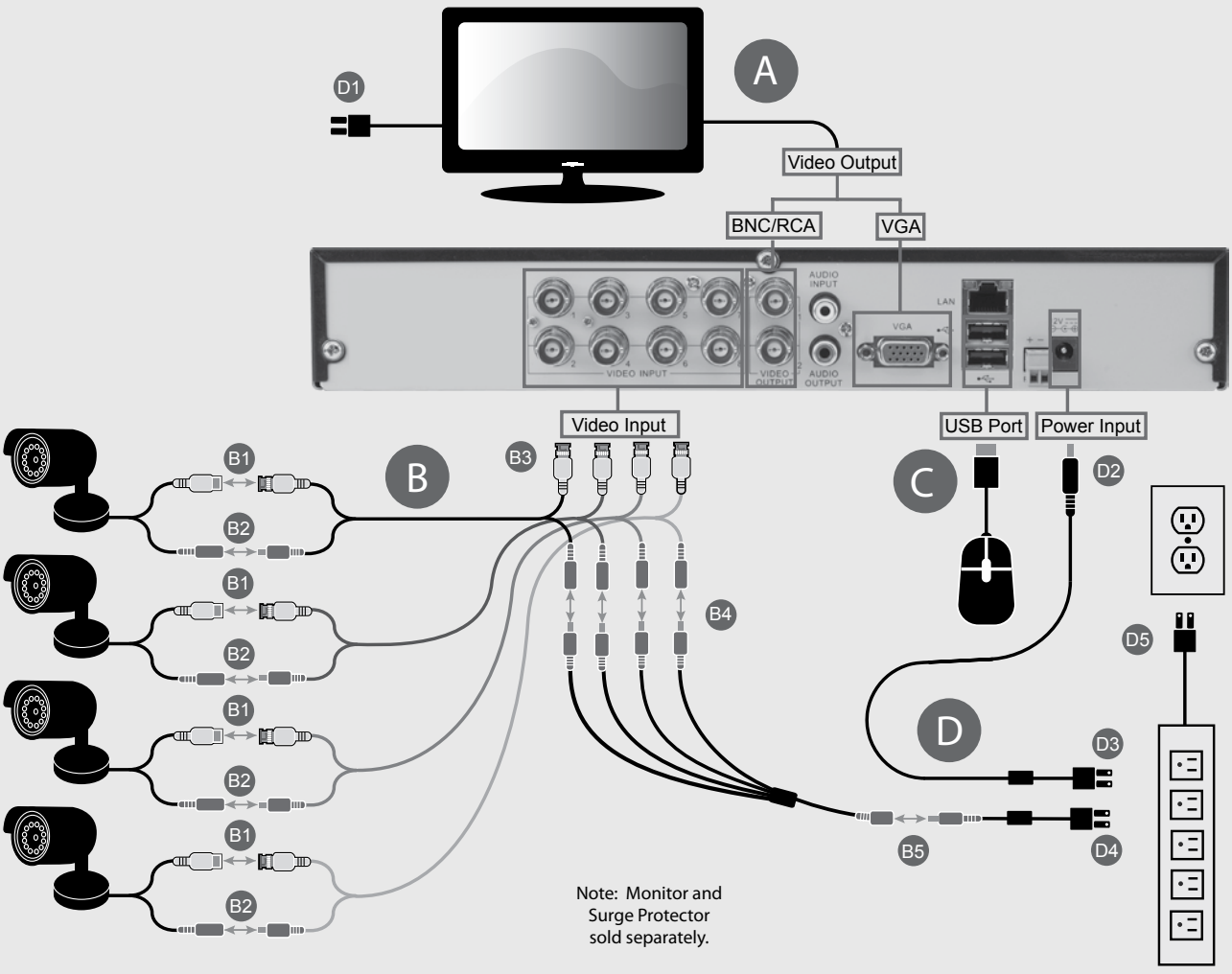
Use the following flow charts to help make the cable connections, navigate the system and set up or change the unit settings. Refer to the individual setup sections in this manual for detailed instructions on specific tasks.

INITIAL SETUP
Physical Connections

See Page 12

1

A Connect Monitor → B Connect Cameras → C Connect Mouse → D Connect Power → E Mount Cameras



For technical questions, please call 1-800-444-3353.

Set Date and Time

See Main Settings on Page 17

2

In DVR Main Menu Select System → Select General → Set Date and Time → Click Apply then OK

Set Recording Mode

See Recording Schedule on Page 18

3

Set Date and Time above

Which Recording mode?

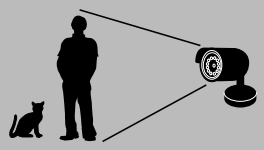
- Manual → Press REC on front of DVR - red light will flash
- Scheduled → In DVR Main Menu select Record → Select Schedule → Select Channel and Day of Week → Select boxes for Normal and Motion → Repeat for all Days and all Channels → Click Apply then OK

Motion Detection Settings

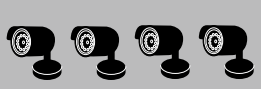
See Motion Detection on Page 19

4

Set Date and Time above → Set Recording Mode above



In DVR Main Menu Select Alarm → Select Motion → Select Channel → Select Area → Set Sensitivity Level → Select which Channels will record → Set Buzzer for audible alarm → Click Apply then OK



Local Area Network (LAN) Setup

See Page 28

In DVR Main Menu Select System

Select Users

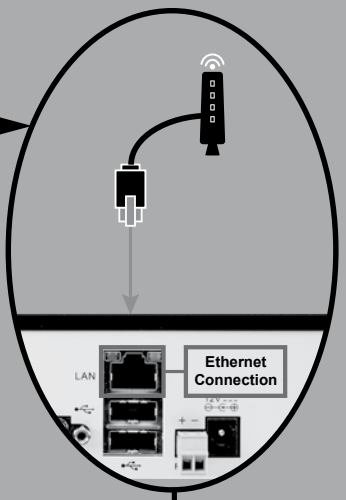
Set User Name and Password

Click Apply then OK

Do you have a Windows® PC with Internet Explorer® and a Router?

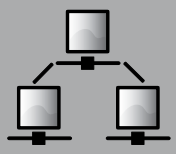
YES

Connect DVR to Router via Ethernet Cable (Sold Separately)



NO

STOP
Ensure you have a Windows® PC with Internet Explorer® and a Router before proceeding.



From DVR Main Menu select Network > Network Type = Static

On PC, go to Start Menu, click Run. In DOS window type "cmd", click OK. type "ipconfig" press ENTER

Find the Router's LAN Write down:
1. Subnet Mask
2. Default Gateway (Router's IP Address)

Create New IP Address: Are last 3 digits of Default Gateway between 0-99?

NO

Change last 3 digits to a number between 200 and 255

YES

Change last 3 digits to a number between 100 and 255

In DVR Network > Network change settings:
1. Client Port: 3000
2. HTTP Port: 3001
3. New IP Address
4. Subnet Mask you wrote down
5. Default Gateway you wrote down
6. DNS1 same as Gateway

Click Apply then OK to save changes. Click Exit, DVR will prompt restart. Click OK.

After restart, on DVR go to Network > Network to view settings.

Open Internet Explorer®. In address bar, type in DVR's IP Address and HTTP Port: http://xxx.xxx.xxx.xxx:3001 (where x = IP Address and 3001 = HTTP Port) Press Enter.

Allow ActiveX Control to install. You may need to adjust the settings in Internet Explorer® by adding the http address to Trusted Sites and modifying ActiveX controls to allow installation.

After ActiveX Control installs, Log in to DVR with User Name and Password.

Wide Area Network (WAN) Setup
See Page 30

FOR ADVANCED USERS
Internet Setup for Remote Use

Set up LAN according to instructions above.

PORT FORWARDING

Open Internet Explorer®. In address bar, type in Default Gateway (from LAN Setup above). Example: xxx.xxx.xxx.xxx Press Enter.

Log in to the Router and go to Port Forwarding or Applications and Gaming.

Set start port to 3000 and end port to 3002. Set up both UDP and TCP protocols if the option is given.

Find the Router's IP Address by going to whatsmyip.com. Write it down.

REMOTE COMPUTER ACCESS

On remote computer, Open Internet Explorer®. In address bar, type in Router's IP Address and HTTP Port (from LAN Setup above): http://xx.xxx.xxx.xxx:3001 (where x = IP Address and 3001 = HTTP Port) Press Enter.

Allow ActiveX Control to install. You may need to adjust the settings in Internet Explorer® by adding the http address to Trusted Sites and modifying ActiveX controls to allow installation.

After ActiveX Control installs, Log in to DVR with User Name and Password (from LAN Setup above).

SMARTPHONE ACCESS

In DVR Main Menu Select Network then Mobile

Set User Name and Password

Set Mobile Port to 3002

Click Apply then OK

Insert supplied CD into computer and look in Mobile Software folder for instructions.

DVR Equipment Connections

Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

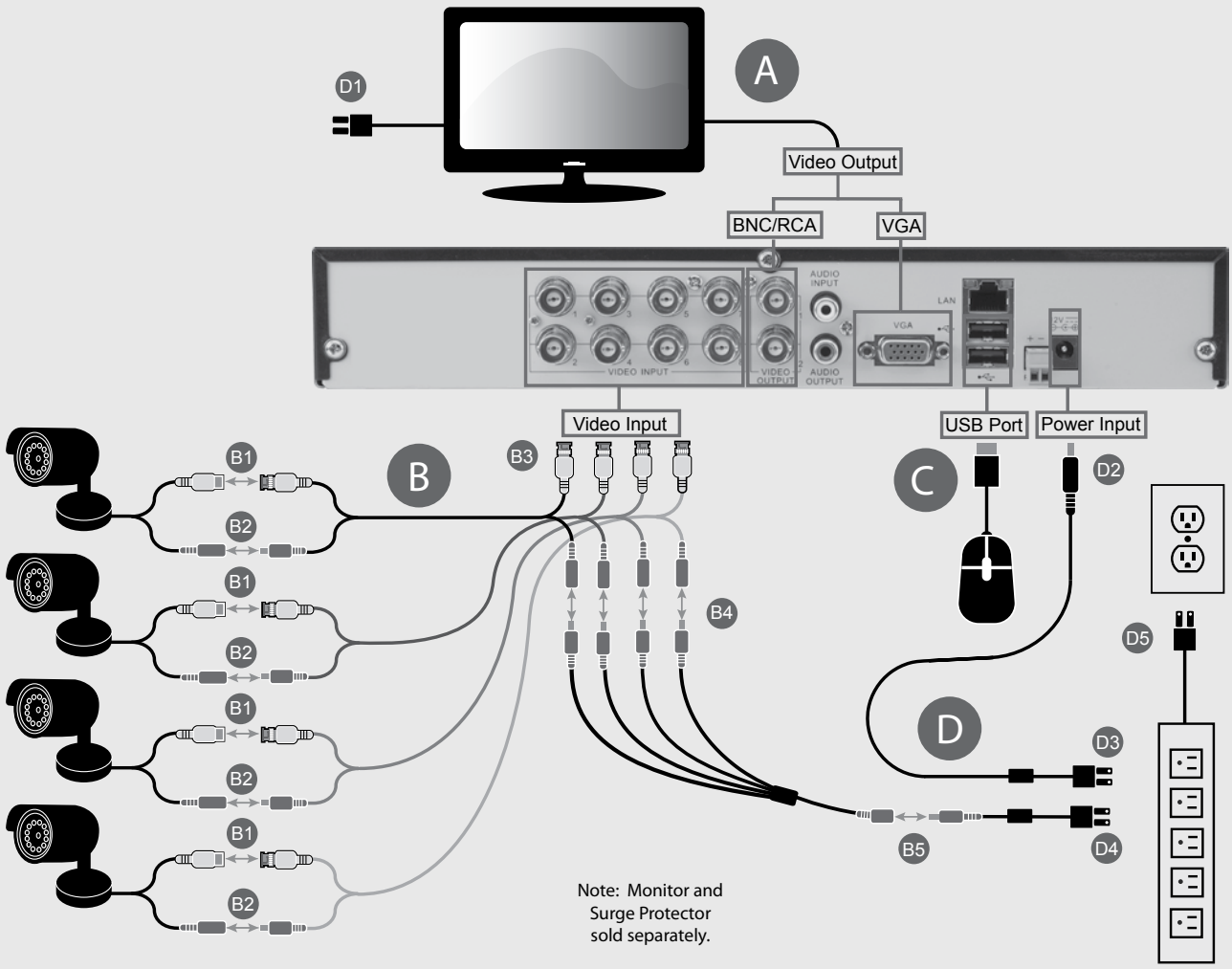
Check federal, state and local surveillance laws before installing video and/or audio surveillance equipment.

Connect and test all equipment and camera locations before installing cameras.
Use a surge protector (sold separately) to protect equipment.

INITIAL SETUP
Physical Connections

1

A Connect Monitor → B Connect Cameras → C Connect Mouse → D Connect Power → E Mount Cameras



Designate Location for DVR and Monitor

When planning location for DVR and Monitor:

1. Choose a clean, dry location indoors with a 120V outlet nearby.
2. For network viewing, make sure the DVR is located close to a router.
3. Take into consideration the length of the Camera Cables.

CAUTION! Route the Cables so as to avoid a tripping hazard.

4. Make sure location will remain within Operating Temperature.

A. Connect Monitor

Connect TV or PC monitor (sold separately) to DVR using BNC to RCA cable (included) or VGA cable (sold separately).

B. Connect Cameras

1. Connect Video (Yellow) from Cameras to Cables.
2. Connect Power (Red) from Cameras to Cables.
3. Connect Video (Yellow) from Cables to DVR.
4. Connect Power from Cables to Splitter.
5. Connect Splitter to Camera Adapter.

C. Connect Mouse

Plug the Mouse in one of the USB ports.

D. Connect Power

Note: Only use supplied Power Adapters and a surge protector (sold separately).

1. Plug Monitor into surge protector.
2. Plug DVR Adapter into Power Input on DVR.
3. Plug DVR Adapter plug into surge protector.
4. Plug Camera Splitter plug into surge protector.
5. Plug surge protector into 120V outlet.

CAUTION! The Power Adapters MUST be plugged in indoors in a clean, dry location.

6. System will boot up.

Initializing

1. After boot up, system will initialize.
2. After initialization is complete, system will beep, then display Main Interface with live images from cameras.
3. Press and hold the **REW** button until it beeps to activate the controls.
4. Make sure that all cameras are operating.

Cameras - Before Mounting

1. Place Cameras in intended locations. When planning mounting locations and angles:
   a. Take into consideration the length of the Cables.

CAUTION! Route the Cables so as to avoid a tripping hazard.

   b. Choose locations high enough so that they are out of reach of children, but still cover the desired viewing areas.
   c. Verify that installation surfaces have no hidden utility lines before drilling or driving screws.
   d. To avoid mounting the Cameras upside down, make sure the Hood is above the Lens.
   e. Make sure no strong light will shine directly into Camera Lenses.

E. Mount Cameras

Using the Base as a template, mark locations of mounting holes on mounting surface.

Note: Route Cable through slot on Base to keep Base flush with mounting surface while marking holes.

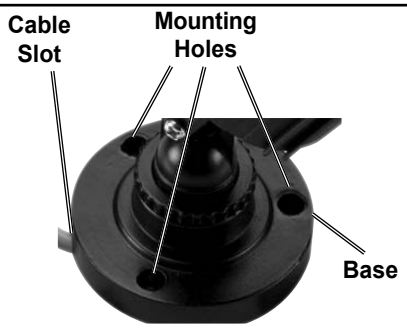


Figure F

Solid Surface

1. Using a drill bit slightly smaller than the Screws, drill pilot holes into the marked locations.
2. Position Camera so that mounting holes align with pilot holes.

Note: Route Cable through slot on Base to keep Base flush with mounting surface.

3. Drive Screws through mounting holes in Base and into pilot holes until the Camera is securely attached to the mounting surface.

Hollow Surface

1. Using a drill bit slightly smaller than the Anchors, drill holes in the marked locations.
2. Tap Anchors into the holes until they are almost flush with mounting surface.
3. Position Camera so that mounting holes align with anchors.

Note: Route Cable through slot on Base to keep Base flush with mounting surface.

4. Drive Screws through mounting holes in Base and into anchors until the Camera is securely attached to the mounting surface.

Camera Adjustment

1. Loosen Adjustment Wheel, rotate Camera as needed, then tighten Adjustment Wheel.
2. Loosen Adjustment Screw, tilt Camera as needed, then tighten Adjustment Screw.

Note: Only loosen Adjustment Screw slightly, do not remove it.

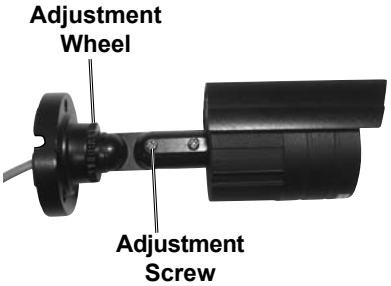


Figure G

Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Note: In all of the following instructions, the Mouse will be used for navigating all system menus.

Pop-Up Menu

To access Pop-Up Menu, right-click anywhere on screen or hover over bottom of screen.

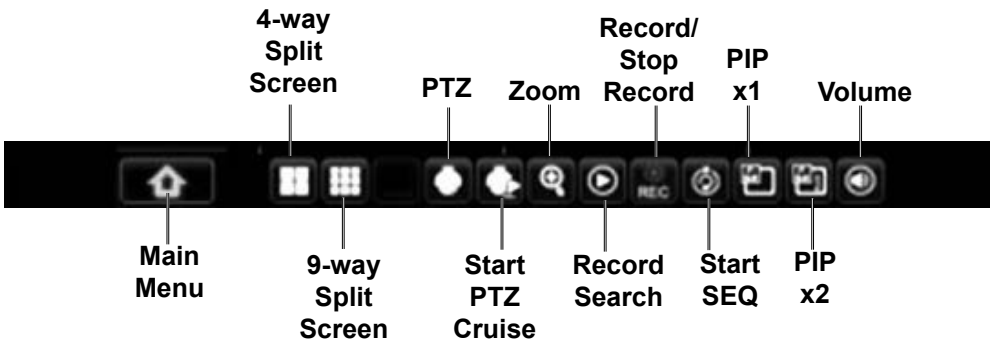


Figure H

Main Menu	Shortcut To Main Menu
4-way Split Screen	Display Up To 4 Live Images
9-way Split Screen	Display Up To 8 Live Images
PTZ	Go To PTZ Controls
Start Cruise	Start programmed PTZ Cruise
Zoom	Zoom PTZ Camera
Record Search	Go To Record Search

Record/Stop Record	Start Recording/ Stop Recording
Start SEQ/Stop SEQ	Rotate Through Live Images/Stop Rotation
PIPx1	Picture In Picture
PIPx2	Two Pictures In Picture
Volume	Sound Level

Main Menu

To access Main Menu, bring up Pop-up menu then click on Main Menu icon.

Figure I

Main Menu Map

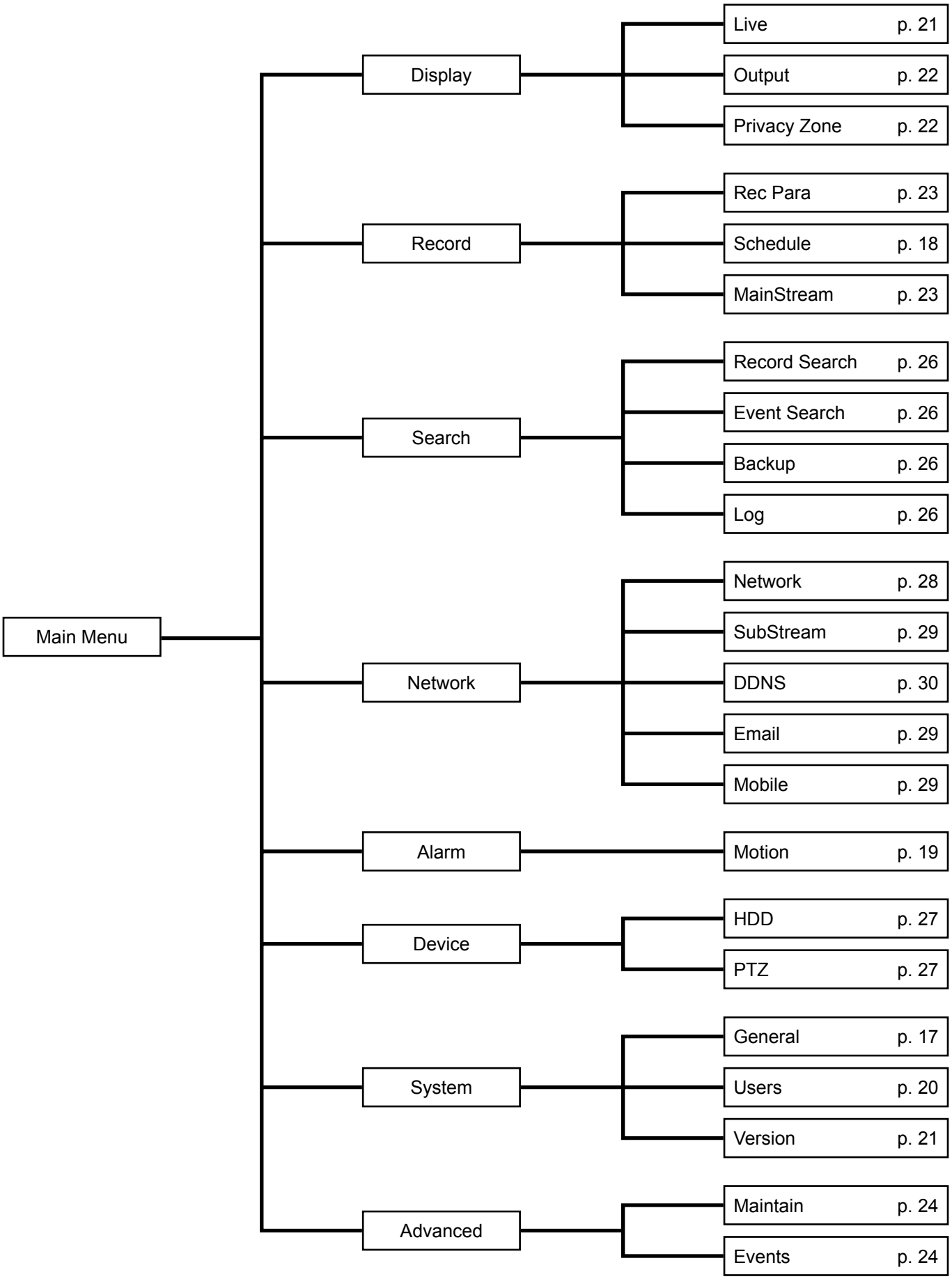


Figure J

Set Date and Time

2

Main Settings

System > General

Set Date and Time, Daylight Saving Time, Network Time Protocol, Language, and Video Format

Figure K

1. **Date:** Set current date.
2. **System Time:** Set current time.
3. **Date Format:** Select date format.
4. **Time Format:** Select time format.
5. **DST Setup**: Click to open setup window.

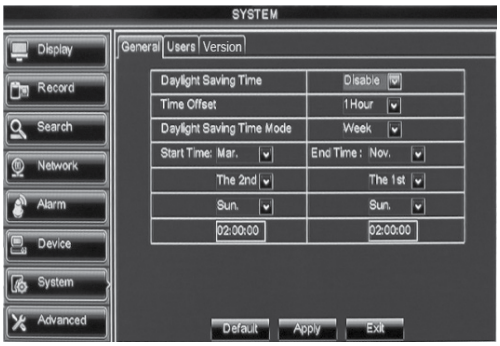


Figure L

6. **Daylight Saving Time:** Select **Enable** or **Disable**.
   a. **Time Offset:** Select 1Hour or 2Hour.
   b. **Daylight Saving Time Mode:**
      - **Week:** Set month, week, day of week and time for change to occur.
      - **Date:** Set date and time for change to occur.

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

7. **NTP (Network Time Protocol) Setup:** Click to open set up window.

Note: This feature sets the internal clock from an Internet server. The DVR must be connected to the Internet for this feature to work. **(See Local Area Network (LAN) Setup on page 28.)**

Figure M

   a. **Server Address:** Select server.
   b. **Time Zone:** Select time zone.
   c. Click **Update Now**.

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

8. **Language:** Select preferred language.
9. **Video Format:** Default is **NTSC**, which is the standard in the United States. Leave it set to **NTSC**.
10. **Menu Time Out:** Select how long menu will display.

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

Set Recording Mode 3

Recording Schedule

Record > Schedule

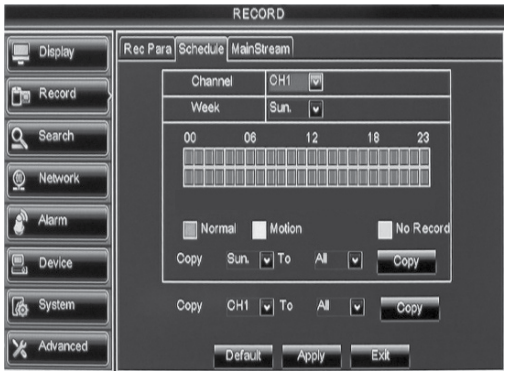


Figure N

1. **Channel:** Select Channel.
2. **Week:** Select day of week.
3. **Schedule Table:**
   a. 00 - 23 represent 24 hours of the day.
   b. Two rows of boxes below represent corresponding hours.
      - **Top row:** When selected, boxes will turn green to indicate **Normal** continuous recording. This is the Default setting.
      - **Bottom row:** When selected, boxes will turn yellow to indicate recording will be triggered by **Motion Detection**.
   c. **Copy (Date):** Copy parameters from one Day to other Days.
   d. Select Day to copy from.
   e. Select Day to copy to or select **ALL.**
   f. Click **Copy**, then click **OK.**
4. **Copy (Channel):** Copy parameters from one Channel to other Channels.
   a. Select Channel to copy from.
   b. Select Channel to copy to or select **ALL.**
   c. Click **Copy**, then click **OK.**

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

Motion Detection Settings 4

Motion Detection

Alarm > Motion

Set up parameters for triggering recordings by Motion Detection.

Figure O

1. **Channel:** Select Channel.
2. **Enable:** Select **Enable** or **Disable**.
3. **Area:** Click to set area where motion is detected.
4. **Sensitivity:** Set sensitivity level.
5. **Show Message:** Check box to show message on screen when Motion Detection is triggered.
6. **Buzzer:** Check box to hear audible alarm when Motion Detection is triggered.
7. **Send Email:** Check box to have email sent when Motion Detection is triggered.

Note: The DVR must be connected to the Internet for this function to work. (**See Wide Area Network (WAN) Setup on page 30).**

8. **Full Screen:** Check box so that when Motion Detection is triggered, the Camera's view will display in full screen mode.
9. **Record Channel:** Check box to Enable/Disable motion recording. Highlight Channels to link recording to this Channel's motion alarm.
10. **Post Recording:** Select how long recording will continue after motion is no longer detected.
11. **Copy:** Copy parameters from one Channel to other Channels.
    a. Select Channel to copy from.
    b. Select Channel to copy to or select **ALL.**
    c. Click **Copy**, then click **OK.**

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

Users

System > Users

The system supports one administrator and six users. The administrator has permission to perform all activities and is authorized to set up permissions for all other users.

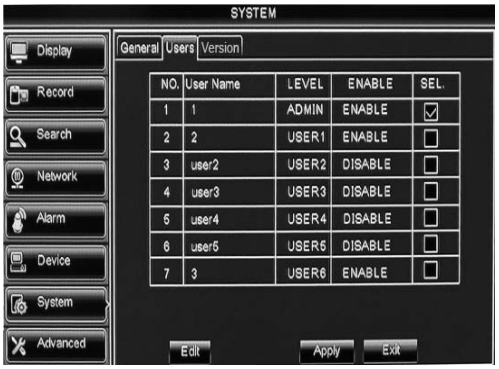


Figure P

Set up Administrator

1. Select **admin** and click **Edit.**
2. **User Name:** Set User Name (up to 8 characters).
3. **Password Enable:** Select **Enable** or **Disable**.

Note: When Password is Enabled, a key icon will appear on Pop-Up Menu. Click on key to enable Menu Lock.

   a. **Password:** Enter Password (must be 6 numbers).
   b. **Confirm:** Enter Password again to confirm.

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

Set up additional Users

4. Select **user1** then click **Edit.**
5. **User Enable:** Select **Enable.**
6. **User Name:** Enter User Name (up to 8 characters).
7. **Password Enable:** Select **Enable** or **Disable**.
   a. **Password:** Enter Password (must be 6 numbers).
   b. **Confirm:** Enter Password again to confirm.

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

8. Select User that was just named and click **Permission.**
   a. Click in boxes to select specific permissions.
   b. Click **All** to select all permissions.
   c. Click **Clear** to remove all permissions.

Figure Q

Log Search	Check entire system log
Parameter	Set all parameters
Maintain	Update version, recover factory presets, reboot and shut down
Disk Manage	Manage Hard Drives, including deleting data
Remote Login	Log in remotely
Rotate Control	Manage Sequence
Manual Record	Manually start and stop recording
Backup	Backup recordings of selected channels
Live	View live images of selected channels
Playback	Playback recordings of select channels
PTZ Control	Perform PTZ operation (PTZ camera sold separately)

Figure R

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

9. Repeat steps above for other Users.

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

System Information

System > Version

View and Set Device Information.

Figure S

1. **Device Name:** Set Device Name (up to 21 characters).
2. **Device ID:** Set Device ID number (up to 6 numbers
3. **Device Type:** Cannot modify.
4. **Hardware Ver:** Cannot modify.
5. **Software Ver:** Cannot modify.
6. **IE Client Ver:** Cannot modify.
7. **MAC Add:** Media Access Control address. MAC Address needs to be changed when multiple DVRs are on the same network.

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

Display Settings

Display > Live

Set how Camera information will display.

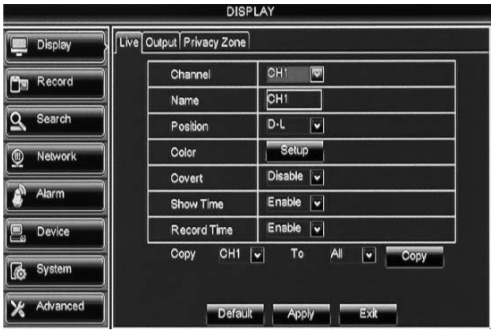


Figure T

1. **Channel**: Select Channel.
2. **Name**: Set Channel name (up to 8 characters).
3. **Position:** Select position where **Channel Name** will appear on the screen.
   a. **U-L:** Upper Left
   b. **D-L:** Lower Left.
   c. **U-R:** Upper Right.
   d. **D-R:** Lower Right.
   e. **Close:** No name will appear.
4. **Color:** Click **Setup** to adjust Hue, Brightness, Contrast, and Saturation.

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

5. **Covert:** Enable to conceal live image.
6. **Show Time:** Toggles date and time display.
7. **Record Time:** Enable to record date and time.

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

8. **Copy:** Copy parameters from one Channel to other Channels.
   a. Select Channel to copy from.
   b. Select Channel to copy to or select **ALL.**
   c. Click **Copy**, then click **OK.**

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

Display Output

Display > Output

Figure U

1. **Rotate Time:** Amount of time, in seconds, that each Channel will display in Live View when **Start SEQ** is activated from the Pop-Up Menu.
2. **VGA Resolution:** Select resolution.
3. **Init. DEV:** Select Video Output port.
4. **Transparency:** Select Transparency of the Menus.
5. **Volume:** Press Volume button to open Volume Control.

Figure V

a. Set **Volume** (if audio hooked up).
b. Check **Mute** box to turn off sound.
c. Click save icon on right to save settings, then click **OK**.
d. Right click to return to **Output**.

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

Privacy Zones

Display > Privacy Zone

Allows selection of up to four areas to be blocked from being viewed or recorded.

Figure W

1. **Channel:** Select Channel.
2. **Privacy Zone:** Toggles Privacy Zones.
3. **Area Setup:** Select up to 4 areas to block.
4. **Mask Area:** Select **Setup,** then click and drag green square(s) to move and resize areas to be blocked.
5. Right click anywhere to return to **Privacy Zone**.

Click Apply then OK to save changes!

6. Repeat steps above for other Channels.
7. **Copy:** Copy parameters from one Channel to other Channels.
   a. Select Channel to copy from.
   b. Select Channel to copy to or select **ALL.**
   c. Click **Copy**, then click **OK.**

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

Recording Parameters

Record > Rec Para

Figure X

1. **Channel:** Select Channel.
2. **Record:** Select **Enable** or **Disable**.
3. **Pack Duration:** Select continuous recording time for each pack (recording segment).
4. **PreRecord:** Enable to start Motion Detection recordings immediately before motion is detected. **Keep this enabled in most circumstances.**
5. **Copy:** Copy parameters from one Channel to other Channels.
   a. Select Channel to copy from.
   b. Select Channel to copy to or select **ALL.**
   c. Click **Copy**, then click **OK.**

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

Video Stream

Record > MainStream

Set Resolution, Frames Per Second, Bitrate, Audio.

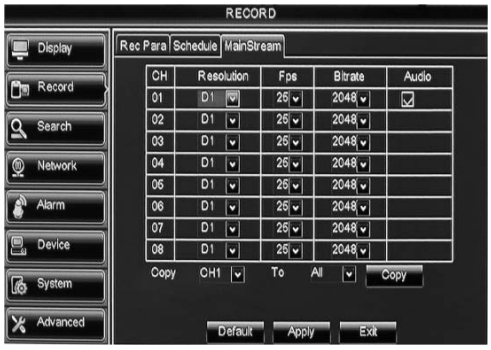


Figure Y

Resolution	Quality	Fps Range	Bitrate Range
CIF - 352X240	Low	1 - 30	224 - 768
HDI - 704x240	Better	1 - 15	80 - 448
D1 - 704x480	Best	1- 7	80 - 448

Figure Z

1. **Resolution:** Select **CIF, D1** or **HD1**.
2. **Fps (Frames per second):** Set as desired.
3. **Bitrate (Kbps):** Set **as desired**.
4. **Audio -** Check box to record audio if microphone (sold separately) has been connected. This is only available on Channel 1.
5. **Copy:** Copy parameters from one Channel to other Channels.
   a. Select Channel to copy from.
   b. Select Channel to copy to or select **ALL.**
   c. Click **Copy**, then click **OK.**

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

Maintain Hard Drive

Advanced> Maintain

Set up Reboot Cycle, Update Software, Manually Restore Default Settings, Reboot And Shut Down.

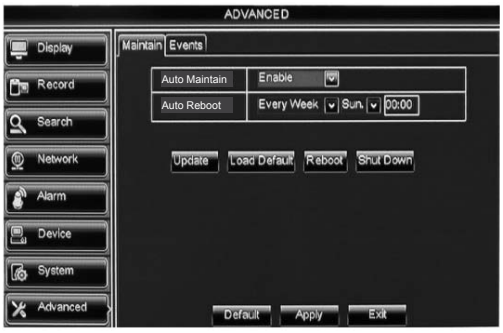


Figure AA

1. **Auto Maintain:** Enables **Auto Reboot**.
2. **Auto Reboot:** Select when to Reboot system.
   a. **Everyday:** Enter time for Reboot.
   b. **Every Week:** Enter day of week and time for reboot.
   c. **Every Month:** Enter day of month and time for reboot.
3. **Update:** Used for updating firmware using a USB drive. **Do not update firmware unless device is not working properly and Customer Service instructs you to do so.**
4. **Load Default:** Click to restore all system default settings.
5. **Reboot:** Click to manually reboot system.
6. **Shut Down:** Click to manually shut down system.

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

Alerts

Advanced > Events

Set up alerts for when the hard drive has no disk space, when there is a disk error or a camera loses video.

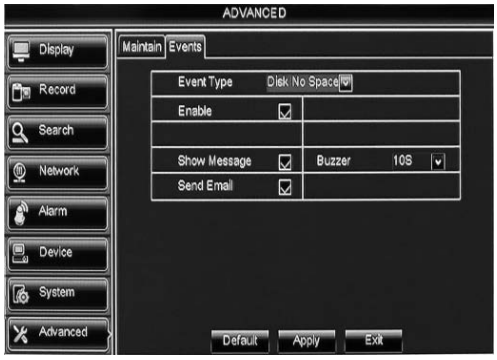


Figure AB

1. **Event Type:** Select Event type.
2. **Enable:** Check box to **Enable** or uncheck to **Disable**.
3. **Show Message:** Check box to show a message or uncheck to not show a message.
4. **Buzzer:** Click drop-down box to choose Buzzer duration or turn Buzzer off.
5. **Send Email:** Check box to send an email or uncheck to not send an email.

Note: The DVR must be connected to the Internet for email function to work. **(See Network > Network on page 22.)**

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

Search Recordings

Search > Record Search

Figure AC

CH	Select channel
Search Date	Select date
Search	Click to populate **Record State** table
Replay Time	Select time of day
Play	Click to play selected recording
Record State table	(Month) shows all days in selected month where there are recordings **Green** = Normal recording **Red** = Motion Detection recording
	(Date) Shows all hours in selected day where there are recordings
Event Search	Go to **Event Search** (See **Backup Recordings** section)

Figure AD

Search by Date

1. **Search Date:** Enter desired search date and click **Search** to populate table.
   a. Click on box for date to search.
   b. Click on box for hour to search. This will bring up the channel list.
2. **Select Channel(s):** Click on box(es) for channel(s) to view, then click **Play.**
3. The **Playback Control Bar** will pop-up on bottom of screen.

Note: The **Playback Control Bar** will automatically disappear when the mouse stops moving. To recall **Playback Control Bar**, move the mouse.

Figure AE

◄◄	Rewind 2X, 4X, 8X, 16X
►|	Play 1/2, 1/4, 1/8 speed
►	Play normal speed
|►	Pause
►►	Fast Forward 2X, 4X, 8X, 16X
MUTE	Turn off sound (if audio hooked up)
Volume Control	Control volume (if audio hooked up)
X	Exit recording

Figure AF

To exit recording, click X on Playback Control Bar, then click Exit to return to Record Search.

Search by Time

To find a specific event when the date and time of event are known:

1. **Search Date:** Enter the date of the recording.
2. **Replay Time:** Enter the time of the recording.
3. Click **Play** to bring up the channel list.
4. **Select Channel(s):** Click on channel boxes, then click **Play.**
5. The **Playback Control Bar** will pop-up on bottom of screen. **(See Figure AE and Figure AF above.)**

Note: To recall **Playback Control Bar**, move the mouse.

To exit recording, click X on Playback Control Bar, then click Exit to return to Record Search.

Backup Recordings

Search > Event Search

Playback and Back up recordings.

Figure AG

Search Date	Enter date
CH	Select Channel
Search Time	Set start and stop times
TYPE	Select type of event
BAK	Check box for each recording to back up
|◄	Go to first set of recordings
◄	Go to previous set of recordings
►	Go to next set of recordings
►|	Go to last set of recordings
All	Select all recordings in current set
Inverse	Deselect selected recordings and select opposite recordings
Search	Search for selected recordings
Backup	Perform Back up
Exit	Go back to **Record Search**

Figure AH

1. **Search Date:** Set date to search.
2. **CH:** Select Channel.
3. **Search Time:** Enter beginning search time in first box and ending search time in second box.
4. **TYPE:** Select **All**, **Normal**, or **Alarm** recordings.
   a. **Normal** recordings are scheduled or manual recordings.
   b. **Alarm** recordings are recordings started automatically by motion detection.
5. Click **Search** to populate table.
6. Select recordings to backup:
   a. To mark all recordings for backup, click **ALL.**
   b. To mark recordings for backup, click on **BAK** box for each selection.
   c. Click **Backup** and click **OK** to backup selected recordings.

Search > Backup

Back up recordings.

Figure AI

1. **Search Date:** Set date to search.
2. **CH:** Select Channel.
3. **Search Time:** Enter beginning search time in first box and ending search time in second box.
4. **TYPE:** Select **All**, **Normal**, or **Alarm** recordings.
   a. **Normal** recordings are scheduled or manual recordings.
   b. **Alarm** recordings are recordings started automatically by motion detection.
5. Click **Search** to populate table.
6. Select recordings to backup:
   a. To mark all recordings for backup, click **ALL.**
   b. To mark recordings for backup, click on **BAK** box for each selection.
   c. Click **Backup** and click **OK** to backup selected recordings.

Search > Log

Figure AJ

1. **Log Type:** Select Log type.
2. **Start Time (Date):** Enter start date.
3. **End Time (Date):** Enter end date.
4. Click **Search** to populate table.
5. Click **Backup** to backup log file, then click OK when backup finished.

Format Drives

Device > HDD

Figure AK

No.	ID number of drives
State	**OK -** Hard drive installed
	No disk - No hard drive installed
Free/total	Free Space/Total Space
Free Time	Recording time available

Figure AL

1. **Overwrite:** Select how long to save recordings on Hard Disk Drive before overwriting.

Note: The drive will save recordings as long as possible before overwriting while in **Auto** mode. If **Close** is selected, the drive will not be overwritten.

2. **Format Hard Drive:**
   a. Click **Select** box for drive to format.
   b. Click **Format HDD.**
   c. Click **OK.**
   d. When formatting is finished, click **OK.**
3. **Format USB Drive:**
   a. Install drive into USB port.
   b. Click **Format USB.**
   c. Click **OK.**
   d. When formatting is finished, click **OK.**

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

PTZ Camera

Device > PTZSetings for PTZ (Pan, Tilt, Zoom) camera (sold separately).

Input information according to PTZ camera manufacturer instructions.

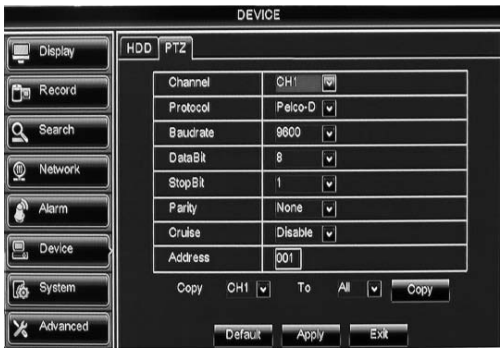


Figure AM

Local Area Network (LAN) Setup

Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Note: This setup allows you to connect to the DVR through the Internet within your home network. This setup requires the use of a Windows® PC (sold separately) with Internet Explorer®, an Ethernet Cable (sold separately) and a Router (sold separately).

Network > Network

Use the chart below to record the information you will need to set up your LAN.

Subnet Mask	
Default Gateway (Router's IP Address)	
New DVR IP Address	
DVR's LAN Address	

Figure AN

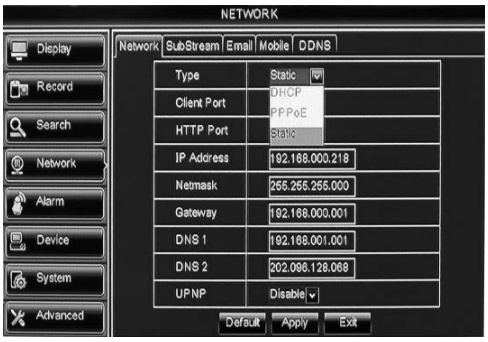


Figure AO

1. Connect DVR to Router via Ethernet Cable.
2. On PC, go to Start menu, then click Run.
   a. Type **"cmd"** then click **OK**. A DOS window will open.
   b. Type **"ipconfig"** then press **Enter**.
   c. You will see the Local Area Connection of the Router.
   d. In the chart above, write down the numbers corresponding to:
      - Subnet Mask
      - Default Gateway (Router's IP Address).
3. Create a **New DVR IP Address**:
   a. If last 3 digits of **Default Gateway** are 0-99, change last 3 digits to a number between 100 and 255.
   b. If last 3 digits of **Default Gateway** are 100 or more, change last 3 digits to a number between 200 and 255.
   c. **New DVR IP Address** will be xxx.xxx.xxx.yyy where x = first 3 sets of current Default Gateway (Router's IP Address) and y = new set created in 3.a. or b.
   d. Write the **New DVR IP Address** in the chart above.
4. On DVR, go to **Network > Network**:
   a. Change **Type** to **Static**.
   b. Change **Client Port** to **3000.**
   c. Change **HTTP Port** to **3001**.
   d. Change **IP Address** to the **New DVR IP Address** from the chart.
   e. Change **Subnet Mask** and (Default) **Gateway** to the ones from the chart.
   f. Change **DNS1** to be the same as **Gateway**.
   g. Click **Apply**, then **Exit**. DVR will prompt restart. Click **OK**.
5. After restart, go back to **Network > Network** to view the settings.
6. Open Internet Explorer® and type in the **IP Address** and **HTTP Port** in the address bar:
   a. http://xxx.xxx.xxx.xxx:3001 where x = **IP Address** and 3001 = **HTTP Port**. Write this address on chart under **DVR's LAN Address**.
   b. Press Enter.
   c. Allow ActiveX control to install.

Note: You my need to adjust the settings in Internet Explorer® by adding the http address to Trusted Sites and modifying ActiveX controls.

7. After ActiveX Control installs, Log in to DVR using User DVR's **User Name** and **Password**.
8. The DVR can now be controlled by a computer in your home network.

Set up Remote Video Stream

Network > SubStream

Select channels to export through network connection.

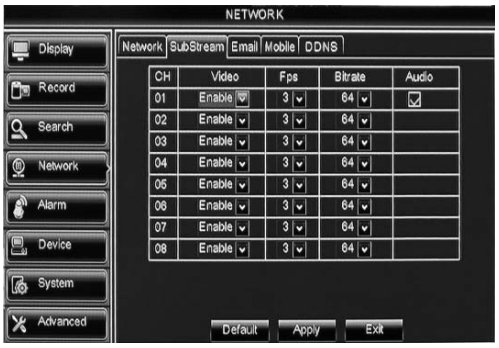


Figure AP

Set up Email Capability

Network > Email

Enables email to be sent when Motion Detection is triggered.

Note: Follow instructions from email provider to set up this feature.

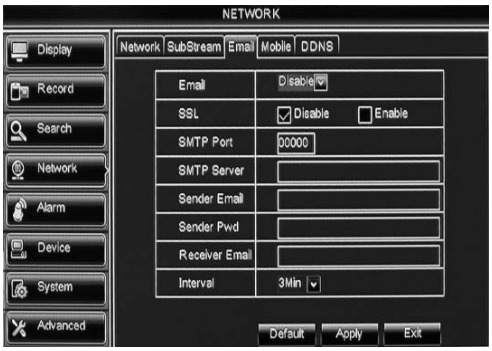


Figure AQ

1. **Sender Email:** The email address that the notification will be sent from.
2. **Sender Pwd:** The password for the email account that the notification will be sent from.
3. **Receiver Email:** The email address that the notification will be sent to.

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

Set up Smartphone Capability

Network > Mobile

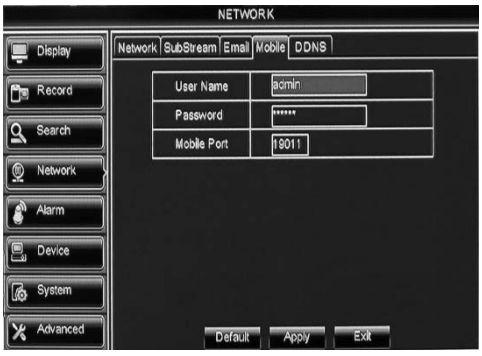


Figure AR

1. **User Name:** Set User Name.
2. **Password:** Set Password.
3. **Mobile Port:** Set Port to 3002.

Changes will not be saved unless you click Apply then OK!

Click Exit to return to System and discard unsaved changes.

Wide Area Network (WAN) Setup

Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

This setup allows you to connect to the DVR from a remote computer or smartphone. This is an advanced setup. You may need to consult your Router's Manual and/or call the manufacturer or Internet Service Provider for instructions on Port Forwarding.

1. Set up **Local Area Network** first.
2. Open Internet Explorer® and type the **Default Gateway (Router's IP Address)** in the address bar and press Enter. This will bring up your Router's Log in.
3. Login to your Router and check your connection type.
   a. If **Static**, the IP Address will not change and your connection will remain stable. Proceed to Port Forwarding.
   b. If **DHCP**, the IP Address will change at some point in time. When it changes you will then need to use the new IP Address to connect to the DVR. Other options are:
      - Contact your ISP and request a Static IP Address, for which there may be a charge.
      - Set up a Dynamic Domain Naming System. This is outside the scope of this manual. Settings can be accessed on the **Network > DDNS** tab.
4. Go to **Port Forwarding** or **Applications and Gaming**.
5. Set start port to 3000 and end port to 3002. Set up both UDP and TCP protocols if the option is given.
6. Open Internet Explorer® and type in the **Router's IP Address** and **HTTP Port**:
   a. http://xx.xxx.xxx.xxx:yyyy
   where x = **IP Address** and y = **HTTP Port**.
   This is the **DVR's Public IP Address**, write it below:
   _____
   b. Press Enter.
   c. Allow ActiveX control to install.

Note: You my need to adjust the settings in Internet Explorer® by adding the http address to Trusted Sites and modifying ActiveX controls.

7. After ActiveX Control installs, Log in to DVR using User Name and Password.
8. The DVR can now be controlled by a remote computer or smartphone.

Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

The supplied CD contains the software needed to connect to the DVR and play back recordings on a computer or smartphone.

DVR Client

For use with a local or remote PC to set up connection to the DVR.

For local computer, the LAN needs to be set up first.
For remote computer, both the LAN and WAN need to be set up first.

System Requirements	
CPU	Intel Pentium 4 or higher, 3GHz
RAM	Min. 2GB
Operating System	Windows XP Professional®, Windows Vista®, Windows 7®, Windows 8®
Disk Space	Min. 10GB

Installation

1. Insert supplied CD into computer, open **Video_Client** and follow instructions to install the program.
2. Create Administrator User Name and Password.
3. **Video surveillance client** will open.

Figure AS

Add DVR

1. Click **Config** to open **Local parameter configuration** window.
2. Click on **Device manage**.
3. Right click on **Device List,** then click **Add Device.** This will open **Manually add the device** window**.**

Figure AT

a. **Device:** Assign name to DVR.

b. **Device IP:**

- LAN computer - use **DVR's LAN Address** from chart on page 28.
- Remote computer - use **DVR's Public IP Address** from page 28.

c. **Client Por**t. Enter **Client Port** from **Network > Network** settings on DVR.

d. **Channels:** Enter how many Cameras to view.

e. **User Name:** Enter User Name for DVR.

f. **Password** Enter Password for DVR.

g. **Auto Login: Enable** automatic log in to the DVR when DVR Client is launched**.**

h. Click **OK,** the device will appear on the **Device info** list.

4. Exit out of **Local parameter configuration** window.
5. On **Device List**, right click on the DVR icon (the name you assigned to DVR) and click **Login,** then right click again and click **Open All channels.**
6. The DVR can now be controlled through the software.

Note: For more instructions, refer to **DvrClient User Manual** included on the supplied CD.

Video Player

For playing back recordings on a Windows® PC in H.264 format.

Insert supplied CD into computer, open **Video_Client** and follow instructions.

MAC Record Player

For playing back recordings on a MAC in H.264 format.

Insert supplied CD into computer, open **MAC_Record Player** and follow instructions.

AVI Generator

For converting recordings from H.264 to AVI format.

Insert supplied CD into computer, open **AVIGenerator** and follow instructions.

Smartphone

For connecting to the DVR from a smartphone. To use this feature, the WAN needs to be set up first.

1. Insert supplied CD into computer and open **Mobile Software** folder for instructions according to phone type.

Note: The phone's Unknown Sources setting MUST be enabled to allow installation. Depending on Android version, installed software and settings, additional software may be required to allow installation of viewing software.

2. Go to **Network > Mobile** to view the Mobile Port settings you will need.

Procedures not specifically explained in this manual must be performed only by a qualified technician.

Camera Maintenance

⚠WARNING

TO PREVENT SERIOUS INJURY FROM ELECTRIC SHOCK:
Unplug the Power Adapter from its electrical outlet before inspection, maintenance, or cleaning.

1. **PERIODICALLY,** inspect the general condition of the Camera. Check for:
   - loose hardware,
   - damaged cord/electrical wiring,
   - cracked or broken parts, and
   - any other condition that may affect its safe operation.
2. **PERIODICALLY,** wipe external surfaces of Camera with clean cloth.
3. Maintain area surrounding Camera, making sure obstacles don't interfere with visibility, such as overgrown bushes.

Troubleshooting

Problem	Possible Causes	Likely Solutions
Controls stop working on DVR	Lost connection with DVR.	Press **REW** button on front of DVR until beep sounds.
Monitor does not display image	1. Loose or incorrect connections. 2. Monitor needs adjustment.	1. Check that all connections are secure and in the correct location. 2. Adjust the image settings on the monitor.
Poor quality images	Setting(s) are incorrect.	Adjust settings for Video Stream on page 23.
Error codes when trying to install DvrClient software	Incompatibility with Operating System.	Check System Requirements on page Video Client (DvrClient) on page 32 to make sure your Operating System is supported.
Password not working	Incorrect password.	Contact Customer service (1-800-444-3353) for instructions on resetting password.

Parts List

Part	Description	Qty.
1	DVR Console	1
2	Power Adapter Input: 100-240V~, 1.5A Max., 50/60 Hz Output: 12VDC, 2A	2
3	BNC to RCA Cable	1
4	Remote Control	1

Part	Description	Qty.
5	Mouse	1
6	Power Splitter	1
7	Camera Mounting Hardware	1
8	3.6 mm Lens Camera	2
9	6.0 mm Lens Camera	2
10	Cable - 60 ft.	4

Record Serial Number Here:

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

Limited 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. To the extent that this product is used with software other than what is provided, we shall in no event be liable for any damage to your computer or loss of data. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Bunker Hill Security®

3491 Mission Oaks Blvd. • PO Box 6009 • Camarillo, CA 93011 • (800) 444-3353